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ABSTRACT

The response rates of university graduates and the cost per return were studied for a 20-item questionnaire presented in 3 formats as follows: (1) a 2-page questionnaire with an accompanying self-addressed stamped envelope; (2) a condensed format with smaller type, on 1 page, with a self-addressed stamped envelope; and (3) the single-page questionnaire incorporated as a self-mailer. Nineteen questionnaire items were based on a 4-point Likert scale, and the 20th item was an open-ended question scored on another 4-point scale. A wide-scale mailing to college graduates was made to survey their perceptions of the effectiveness of their undergraduate education. Of the 7,078 surveys sent out, 1,830 were returned (25.7 percent response rate overall). Response rates for the questionnaires were 27.9 percent for the 2-page with return envelope, 26.3 percent for the single page with envelope, and 23.3 percent for the single page self-mailer. Responses were also similar across the eight university colleges. The most efficient format was the 1-page questionnaire with a return envelope (1.256 dollar per return) and the most expensive was the two-page with envelope (1.591 dollar per return). Although differences in the return rates for the three formats were statistically significant, there may be little practical impact to small differences in surveys with low return rates. Three tables present study findings. (SLD)

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SURVEY QUESTIONNAIRE FORMAT EFFECT ON RESPONSE RATE AND COST PER RETURN

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Survey Questionnaire Format Effect on Response Rate and Cost per Return

A high percentage response rate is a major concern in a survey investigation using the mailed questionnaire. Although a sample may represent a well defined population, the analysis is limited to those who return the questionnaire. Higher response rates tend to enhance the validity of the sample as being more representative of the population. Unfortunately, low return rates are not uncommon for follow-up studies of university graduates (Smith & Bers, 1987). To increase the chance of graduates returning follow-up questionnaires, researchers have examined factors such as the appearance of the questionnaire (Boser, 1990), the length of the questionnaire (Harvey, 1988), and sponsorship and postage (Armstrong & Lusk, 1987; Fox, Crask & Kim, 1988).

After reviewing research on mailed questionnaire response rates, Baumgartner and Heberlein (1984) noted the need for research on the effects of a wide range of questionnaire lengths on response rate. Although earlier studies had found higher response rates for stapled sheets versus single page questionnaires, no significant difference was found in a more recent investigation (Harvey, 1988). In a related investigation, Boser (1990) found no significant difference in response rates for stapled pages versus a booklet style questionnaire.

Many questionnaire formats are used to gather survey information using the mailed questionnaire. Some use smaller type to present questionnaire items on a single page. Some save money by using a self-mailer in lieu of the return envelope. To what extent do these questionnaire formats enhance a higher response rate? Does the use of a self-mailer generate lower cost per returned questionnaire, thus producing a more efficient study?

Purpose of the Study

The purpose of this investigation was to contrast the response rates of university graduates and the cost per return for a 20-item questionnaire presented in three different formats: (1) a two-page questionnaire, returned in an accompanying self-addressed stamped envelope; (2) a condensed format using smaller type with questionnaire items on a single page, returned in an accompanying self-addressed stamped envelope; and (3) the single-page questionnaire incorporated as a self-mailer in lieu of the return envelope.

Method

A wide-scale questionnaire mailing to university baccalaureate graduates was made to survey their perceptions on the effectiveness of their undergraduate education. Graduates were asked to respond to 19 questionnaire items on a four-point Likert scale (1=Excellent: A model of good practice; 2=Good: Very favorable; 3=Fair: Not good, not bad; 4=Poor: Unfavorable). The twentieth questionnaire item was an open-ended question, scored on the original four-point scale. Selection of the questionnaire format, style, directions and mailing procedures were consistent with desirable and validated questionnaire characteristics (Boser & Clark, 1992).

The mailing was randomly divided into three samples: (1) those sent the two-page questionnaire accompanied by a stamped, addressed return envelope; (2) those sent the one-page tri-fold questionnaire accompanied by a stamped, addressed return envelope; and (3) those sent the one-page questionnaire constructed as a self-mailer. The three questionnaire formats were sequentially assigned to graduates on lists from each college of the university. Since the questionnaires and return envelopes were identifiable only by college, responses were anonymous and there was no follow-up mailing.

Overall response rates were contrasted using the hypothesis test of no significant difference in the proportions of mailed questionnaires returned under the three survey conditions. Responses to the scaled questionnaire items were contrasted across the three groups to determine if the groups receiving the three questionnaire formats exhibited differences in their opinions about the university. These hypotheses were tested at the .05 significance level. Finally, the cost per usable returned questionnaire was compared across the three questionnaire formats.

Results

For the 7078 questionnaires mailed out, 1830 were returned for a 25.7% response rate. Response percentages across the three questionnaire formats were: (1) 27.9% for the two-page questionnaire with return envelope; (2) 26.3% for the one-page questionnaire with return envelope; and (3) 23.3% for the one-page questionnaire sent as a self-mailer. As shown in Table 1, these response rates were similar across colleges. For the eight colleges, the percentage returns ranged from 22.5% for Fine Arts to 28.5% for Communications.

No significant difference was found between the proportions responding to formats (1) and (2), which both used a return envelope ($z=1.274$, $p>.05$). However, a significantly higher proportion responded to format (1) having the two-page questionnaire than to format (3), the one-page self-mailer ($z=3.633$, $p<.05$). Similarly, a significantly higher proportion responded to format (2), the one-page questionnaire with return envelope, than to format (3), the one-page self-mailer ($z=2.360$, $p<.05$). Thus, significantly higher proportions of questionnaires were returned for formats using an enclosed return envelope than for the format which used a self-mailer.

Average responses for the 20 questionnaire items ranged from 1.86 to 2.71 on the four-point scale (1=excellent, 2=good, 3=fair and 4=poor). Three averages were in the 1.75-1.99 range, seven were in the 2.00 to 2.24 range, seven were in the 2.25-2.49 range, and three were in the 2.50-2.74 range. Thus, 17 of the 20 items were rated in the "good" range (1.50 to 2.50) by the university graduates.

In contrasting student responses across the three questionnaire formats, only one significant difference was noted among the 20 questionnaire items. As shown in Table 2, the Office of Career Planning and Placement was rated more favorably by those receiving the two-page questionnaire than those receiving the one-page self-mailer.

Table 1

Response Rate by College

College		Questionnaire Format (1)	(2)	(3)	Total
Agriculture	No. Mailed	113	113	113	339
	No. Returned	27	31	26	84
	% Returned	(23.9)	(27.4)	(23.0)	(24.8)
Arts & Sciences	No. Mailed	394	393	393	1180
	No. Returned	114	116	89	319
	% Returned	(28.9)	(29.5)	(22.6)	(27.0)
Business	No. Mailed	678	677	677	2032
	No. Returned	186	169	145	500
	% Returned	(27.4)	(25.0)	(21.4)	(24.6)
Communications	No. Mailed	174	174	174	522
	No. Returned	54	49	46	149
	% Returned	(31.0)	(28.2)	(26.4)	(28.5)
Education	No. Mailed	600	600	601	1801
	No. Returned	176	157	155	488
	% Returned	(29.3)	(26.2)	(25.8)	(27.1)
Engineering	No. Mailed	60	60	59	179
	No. Returned	18	18	16	52
	% Returned	(30.0)	(30.0)	(27.1)	(29.1)
Fine Arts	No. Mailed	100	99	99	298
	No. Returned	17	26	24	67
	% Returned	(17.0)	(26.3)	(24.2)	(22.5)
Nursing	No. Mailed	243	242	242	727
	No. Returned	68	54	49	171
	% Returned	(28.0)	(22.3)	(20.2)	(23.5)
TOTAL	No. Mailed	2362	2358	2358	7078
	No. Returned	660	620	550	1830
	% Returned	(27.9)	(26.3)	(23.3)	(25.7)

The total costs of the mailings are given in Table 3. These costs included the printing of the cover letters and questionnaires, and the postage for the mail out and for the return. The most efficient format in this study was the one-page questionnaire sent with a return envelope ($1.256 per return) in contrast to the one-page self-mailer ($1.381 per return) and the two-page questionnaire sent with a return envelope ($1.591 per return). There was no significant difference in response rates on format (2) and format (1), which both used a return envelope.

Table 2

Average Responses by Item for

Three Questionnaire Formats

Format 1: 2 pages stapled with return envelope
Format 2: 1 page with return envelope
Format 3: 1 page self-mailer

Questionnaire Item	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_3$	F	F-prob.
1. Teaching in major	1.90	1.84	1.85	1.461	.232
2. Teaching in other	2.18	2.12	2.17	1.498	.224
3. Prepared to compete	2.11	2.04	2.12	2.213	.110
4. Course content	1.97	1.94	2.03	1.755	.173
5. Need for first job	2.22	2.14	2.19	.947	.388
6. Academic advising	2.43	2.38	2.38	.401	.670
7. Faculty interaction	2.18	2.11	2.10	1.738	.176
8. Think and express	2.09	2.02	2.09	2.011	.134
9. Dormitory	2.69	2.71	2.75	.338	.713
10. Student activities	2.50	2.43	2.51	2.152	.117
11. Library	1.90	1.89	1.97	1.916	.148
12. Computer access	2.51	2.50	2.85	.565	.568
13. Financial Aids	2.56	2.57	2.62	.717	.488
14. Admissions/Records	2.37	2.33	2.38	.694	.500
15. Career Planning	2.41	2.46	2.55	3.228*	.040
16. Campus Security	2.41	2.44	2.45	.311	.733
17. Kept informed	2.24	2.20	2.26	.891	.411
18. ASU grads on job	2.15	2.10	2.13	.886	.412
19. ASU service	2.30	2.28	2.35	1.338	.263
20. Overall experience	2.29	2.18	2.32	2.255	.106

* $p < .05$

Table 3

Printing and Mailing Costs for Three Questionnaire Formats

	2-page/ envelope (1)	1-page/ envelope (2)	1-page/ self-mail (3)	Total
Cover Letters	$145.00	$145.00	$145.00	$435.00
Questionnaires	432.00	178.00	178.00	788.00
Postage Out	262.18	261.74	261.74	785.66
Postage In	203.05	191.58	169.26	563.89
Total	$1,042.23	$776.32	$754.00	$2,572.55
Cost per Return	$1.591	$1.256	$1.381	$1.414

Discussion

Although the overall response rate of this survey of university graduates was low, Smith and Bers (1987) report this was not an unusual outcome. Significant differences were noted between the response rates of the three questionnaire formats, however, there may be limited practical significance of these findings with the low 28%, 26% and 23% response rates. In retrospect, another factor may have contributed to these results. The cover letter sent to the university graduates was signed by the university president who had announced his retirement six months earlier. This may have adversely affected the response rate.

It was hypothesized the self-mailer would make it easier for the graduate to respond, thus increasing the response rate. This certainly was not the case in this investigation where both the one-page and two-page questionnaire formats using a return envelope had higher return rates than the one-page questionnaire sent as a self-mailer.

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